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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,820	05/16/2005	Lee O. Lomas	026693-009610US	8595

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EXAMINER	
YANG, NELSON C	
ART UNIT	**PAPER NUMBER**
1641	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/528,820	LOMAS ET AL.	
	Examiner	Art Unit	
	Nelson Yang	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-68* is/are pending in the application.

4a) Of the above claim(s) *9,10,31-58 and 68* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,11-30 and 59-67* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/16/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of a solid support integral part of the reaction vessel, drawn to claims 13-24 and 65-67 in the reply filed on August 13, 2007 is acknowledged. The traverse with respect to claim 11 is found persuasive, and therefore the election of species with respect to claim 11 is with withdrawn.

2. Claims 9 and 10 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on August 13, 2007.

Claims 31-58 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on May 14, 2007.

3. Claims 1-8, 11-30, 59-67 are currently under examination.

Claim Objections

4. Claim 61 is objected to because of the following informalities: modifier in the second line appears to be incorrectly spelled as "mofifier". Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-8, 11-28 are rejected under 35 U.S.C. 102(a) and under 35 U.S.C. 102(e) as being anticipated by Patron et al. [US 2001/0041349].

With respect to claim 1, Patron et al. disclose an array comprising a substrate such as a microtiter plate, with a binding surface comprising the wells of the microtiter plate (reaction space), where the expression systems are located (para. 0036). The binding surface comprises components for immobilization of proteins expressed such as antibodies (para. 0036). The binding surface may further comprise a hydrogel (para. 0036), which is an adsorbent surface, and which would be in fluid communication with the reaction space.

7. With respect to claims 2-4, the expression system may comprise cell-free systems (para. 0060) and also cell-based systems (para. 0035).

8. With respect to claim 5, Patron et al. disclose a plurality of expression systems that each express a discrete protein or peptide (para. 0073), therefore producing a plurality of different proteins or peptides.

9. With respect to claim 6, the binding surface comprises components for immobilization of proteins expressed such as antibodies (para. 0036).

10. With respect to claim 7, Patron et al. disclose that the expressed proteins may be bound with labels (para. 0045), and therefore would comprise a detectable moiety.

11. With respect to claim 8, Patron et al. disclose that the binding surface comprises the wells of a microtiter plate (para. 0036), which would constitute a plurality of reaction vessels.

12. With respect to claim 11, the support may comprise a hydrogel (para. 0036).

13. With respect to claim 12, Patron et al. disclose that the binding surface comprises components for immobilization of proteins expressed such as antibodies (para. 0036).

14. With respect to claim 13, Patron et al. disclose an array comprising a substrate such as a microtiter plate, with a binding surface comprising the wells of the microtiter plate (reaction space) (para. 0036), which would be an integral part of the reaction vessel.

15. With respect to claim 14, Patron et al. disclosed that the biological components are immobilized in a biochip format (para. 0031).

16. With respect to claim 15, Patron et al. disclose an array comprising a substrate such as a microtiter plate, with a binding surface comprising the wells of the microtiter plate (reaction space) (para. 0036), wherein the support may comprise a hydrogel (para. 0036), which would form a plurality of addressable locations comprising an adsorbent surface in fluent communication with a plurality of reaction spaces.

17. With respect to claim 16-21, the limitations appear to recite an intended use of the biochips (use as a MS probe, SEAC probe, SEAC/SEND probe). It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masha*, 2 USPQ2d 1647 (1987). Since the device of Patron would be capable of use as MS probes such as SEAC probes and SEAC/SEND probes, the limitations are therefore anticipated.

18. With respect to claims 22 and 23, the binding surface comprises components for immobilization of proteins expressed such as antibodies (para. 0036). Patron et al. further disclose an array comprising a substrate such as a microtiter plate, with a binding surface comprising the wells of the microtiter plate (reaction space), where the expression systems are located (para. 0036).

19. With respect to claim 24, Patron et al. disclose microtiter plates (para. 0036) that may be utilize mass filters (para. 0092).

20. With respect to claim 25, Patron et al. disclose an array comprising a substrate such as a microtiter plate, with a binding surface comprising the wells of the microtiter plate (reaction space), where the expression systems are located (para. 0036). The binding surface comprises components for immobilization of proteins expressed such as antibodies (para. 0036). The binding surface may further comprise a hydrogel (para. 0036), which is an adsorbent surface, and which would be in fluid communication with the reaction space. Patron et al. further teach a detector (para. 0059) for detecting interaction of components with proteins expressed on the array (para. 0007).

21. With respect to claim 26, Patron et al. disclose that the detection system may be time-of-flight mass spectrometry (para. 0090) that measures ions based on mass/charge ratio (para. 0092).

22. With respect to claim 27, Patron et al. disclose that binding assays may be performed with a fluorescent-labeled ligand, and detected by fluorescence microscopy (para. 0120), which would comprise a fluorimeter.

23. With respect to claim 28, Patron et al. disclose that the absorbance may be measured (para. 0119).

Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

25. Claim 29 is rejected under 35 U.S.C. 103(a) as being obvious over Patron et al. [US 2001/0041349] in view of Duffy [US 2002/0028463].

With respect to claim 29, Patron et al. teach a means of detecting comprising mass spectrometry (para. 0090). Patron et al. fail to teach a means comprising surface plasmon resonance, ellipsometry, resonant mirror techniques, grating coupled waveguide techniques or multipolar resonance spectroscopy.

Duffy, however, shows that mass spectrometry and ellipsometry are equivalent structures known in the art. Therefore, because these two detection means were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art at the time of the invention would have found it obvious to substitute ellipsometry for mass spectrometry.

26. Claim 30 is rejected under 35 U.S.C. 103(a) as being obvious over Patron et al. [US 2001/0041349] in view of Peterson et al. [US 2002/0019060].

With respect to claim 30, Patron et al. disclose that the cells are lysed (para. 0042) and further disclose microtiter plates (para. 0036) that utilize mass filters (para. 0092). Patron et al. fail to teach a sonicating device.

Peterson et al., however, disclose a lysing chamber with an ultrasonic horn for sonicating the chamber (para. 0145). Peterson et al. further disclose that sonicating the chamber prevents clogging of the filters (para. 0145).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have a sonicating device such as an ultrasonic horn in the device of Patron et al., as suggested by Peterson et al., in order to prevent clogging the filters of Patron et al.

27. Claims 59-67 are rejected under 35 U.S.C. 103(a) as being obvious over Patron et al. [US 2001/0041349].

With respect to claim 59, Patron et al. disclose an array comprising a substrate such as a microtiter plate, with a binding surface comprising the wells of the microtiter plate (chamber), where the expression systems are located (para. 0036). The binding surface comprises components for immobilization of proteins expressed such as antibodies (para. 0036). The binding surface may further comprise a hydrogel (para. 0036), which is an adsorbent surface, and which would be in fluid communication with the reaction space. Patron et al. further teach a detector (para. 0059) for detecting interaction of components with proteins expressed on the array (para. 0007).

While Patron et al. do not explicitly teach instructions for using the arrays, it would have been obvious to one of ordinary skill in the art at the time of the invention to include instructions

with the array in a kit, in order that practitioners would know how to use the arrays in an assay.

28. With respect to claims 60 and 61, Patron et al. disclose the presence of phophate buffered saline for washing the array or plate (para. 0119), which is a pH modifier.

29. With respect to claim 62, Patron et al. disclose an array comprising a substrate such as a microtiter plate, with a binding surface comprising the wells of the microtiter plate (chamber), where the expression systems are located (para. 0036).

30. With respect to claim 63, Patron et al. disclose a plurality of expression systems that each express a discrete protein or peptide (para. 0073), therefore producing a plurality of different proteins or peptides.

31. With respect to claim 64, Patron et al. disclose the expression systems may express enzymes, which is detected by the loss of a substrate (para. 0044).

32. With respect to claim 65, the support may comprise a hydrogel or membrane (para. 0052), which is capable of being detached from the microtiter plate.

33. With respect to claim 66, Patron et al. disclose an array comprising a substrate such as a microtiter plate, with a binding surface comprising the wells of the microtiter plate (reaction space), where the expression systems are located (para. 0036).

34. With respect to claim 67, the limitations appear to recite an intended use of the biochips (use as a MS probe). It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masha*, 2 USPQ2d 1647 (1987). Since the device of Patron would be capable of use as MS probes, claim 67 as recited would not be patentably distinct.

Conclusion

35. No claims are allowed.

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson Yang whose telephone number is (571) 272-0826. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long V. Le can be reached on (571)272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

37. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nelson Yang
Patent Examiner
Art Unit 1641